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BULLETIN DU MUSÉUM NATIONAL D'HISTOIRE NATURELLE
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Descriptions of a new genus and two new species of Pteromalidae (Hym., Chalcidoidea) reared from Cynipid (Hymenoptera) galls, with notes on some other species

by R. R. Askew *

Résumé. — Quatre espèces de Pteromalidae parasites de Cynipides gallicoles sont étudiées dans cet article. On y décrit le nouveau genre *Cecidolampa* et son espèce-type, *C. barbotini* nov., obtenue de galles de *Pediaspis aceris* (Gmelin), ainsi qu'une autre forme, *Cecidostiba atra* sp. nov. éclose de cécidies de *Plagiotrochus australis* (Mayr). Des notes taxonomiques sur *Cecidostiba jucundus* (Förster) et *C. geganius* (Walker) complètent ce travail.

Abstract. — Four species of Pteromalidae, all parasitic in Cynipid galls, are discussed. A new genus and its single included species, *Cecidolampa barbotini* sp. n., is described from material reared from galls of *Pediaspis aceris* (Gmelin), and *Cecidostiba atra* sp. n. is described from specimens obtained from galls of *Plagiotrochus australis* (Mayr). Taxonomic notes on *Cecidostiba jucundus* (Förster) and *C. geganius* (Walker) are included.

A collection of chalcids reared from Cynipid galls in western France, sent to me in 1971 by F. Barbotin, included specimens of two undescribed species of Pteromalidae, one of which must be placed in a new genus. Descriptions of these new taxa follow, together with notes on some allied species.

Cecidostiba atra sp. n.

Female

Head in front dark greenish blue, occipital surface blue-black ; thorax blue-black propodeum greenish blue ; gaster blackish dorsally with first tergite greenish blue, laterally with purple reflections. Antennal scape testaceous ; pedicel and flagellum mainly sordid testaceous. Coxae and femora concolorous with thorax ; tibiae quite strongly infuscate, especially hind tibia and flexor surface of middle tibia ; tarsi sordid testaceous. Tegulae fuscous. Wings slightly infuscate on disc, venation brown. Length 1.5-1.9 mm.

Head broader than mesoscutum (19 : 16), in dorsal view 1.8 times as broad as long,

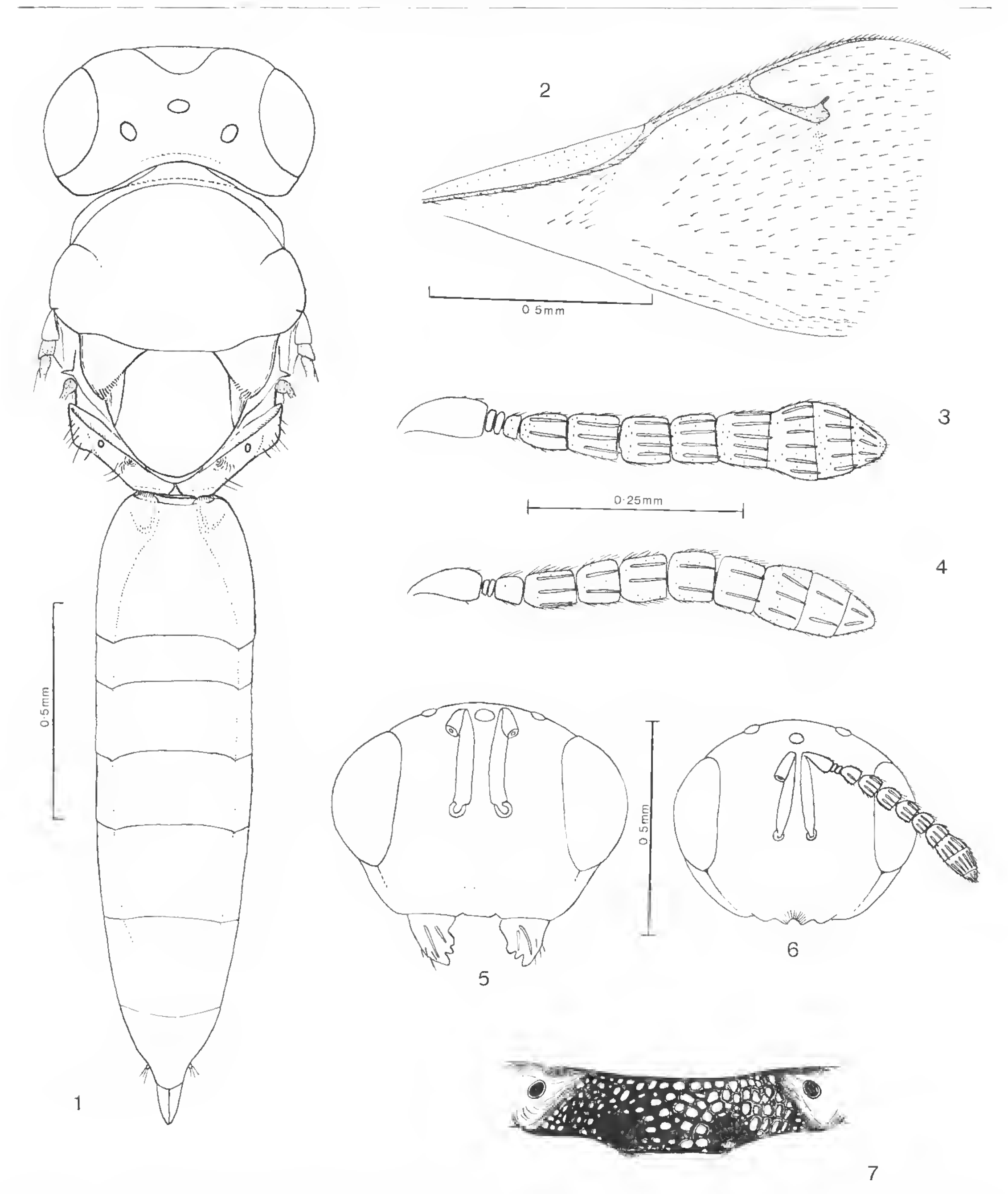
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temples rounded and less than one fifth as long as eye ; ocelli large, lateral ocelli separated from orbit by hardly more than their major diameter, POL about 2.7 times OOL ; frons slightly protruding in an even curve. Head in front view (fig. 6) 1.19 times as broad as high ; eyes separated by 1.3 times their height, inner orbits slightly diverging ventrad, eye hairs short and sparse ; malar space slightly more than one third the height of an eye ; genae moderately curved, malar sulcus well-defined ; mouth opening equal to height of an eye. Left mandible with three teeth, right with four, the outer tooth on each mandible much the largest. Head moderately strongly reticulate, piliferous punctures just discernible on upper face ; clypeus striate, the striations extending a short distance onto face and genae, anterior margin incised medially with a small depression above incision.

Antennae subclavate, inserted above ventral edge of eyes, lower edge of toruli slightly closer to anterior margin of clypeus than to median ocellus ; scape short, about three-fifths height of eye, not reaching median ocellus ; combined length of pedicel and flagellum 0.9 times breadth of head ; pedicel about 2.5 times as long as broad ; funicle proximally hardly as wide as pedicel, distally about twice as wide, anelli transverse, funicle segments one to four or five sub-quadrate, sixth segment and sometimes fifth slightly transverse : pedicel slightly longer than the two anelli plus the first funicle segment ; clava about equal in length to last three funicle segments together, 2.3 times as long as broad, apically bluntly pointed, its sutures straight, a small area of micropilosity on third segment only. Flagellum with hairs decumbent, sensillae not numerous, arranged in a single transverse row on each segment.

Pronotum in dorsal view short, collar medially rather less than 0.1 times as long as mesoscutum with a very finely raised anterior margin which is visible only with difficulty, collar reticulate with a narrow, smooth strip posteriorly, rounded laterally, descending almost vertically to neck. Mesoscutum 1.4 times as broad as long, strongly reticulate and rather dull with piliferous punctures vaguely indicated anteriorly, notauli very shallow and hardly extending to middle of sclerite. Thorax in profile strongly arched. Scutellum and axillae with reticulations finer and less strongly raised than on mesoscutum, dull : frenum with larger reticulations than rest of scutellum. Scutellum slightly longer than broad (27 : 25), convex. Dorsellum smooth and shining, almost vertical and short. Propodeum (fig. 7) medially only one fifth as long as scutellum ; median carina absent, a rather deep fovea present basally on either side of nucha laterad of which the plicae are indicated, plicae fading anteriorly into broadly raised ridges which run to anterior of sclerite ; median area strongly reticulate, not very shining ; spiracles quite large, separated from metanotum by less than their diameter ; spiracular sulcus moderately deep ; callus finely reticulate anteriorly, smooth and shining posteriorly, sparsely hairy, postero-lateral corners broadly rounded, supracoxal flanges narrow ; nucha represented by a narrow, almost smooth strip. Prepectus small, reticulate. Mesepisternum with a smooth, triangular area below base of hindwing, sides of thorax otherwise reticulate and rather dull. Hind coxae dorsally bare ; hind tibia with single apical spur ; legs rather short, hind femur only about three times as long as broad, hind tibia about 4.5 times as long as its apical breadth.

Forewing twice as long as broad, extending beyond apex of gaster ; costal cell with a short line of hairs apically on uppersurface, undersurface with one complete row of hairs and numerous scattered hairs apically and a few basally ; basal cell closed below in apical



Figs. 1-5. — *Cecidolampa barbotini* gen. & sp. n. 1, body of ♀ ; 2, right forewing of ♀ (apical portion not shown) ; 3, right antenna of ♀ ; 4, right antenna of ♂ ; 5, head of ♀ in front view.
Figs. 6, 7. — *Cecidostiba atra* sp. n. ♀. 6, head in front view and left antenna ; 7, median part of propodeum.

quarter, some scattered hairs on uppersurface in distal third in addition to those on basal vein ; speculum open below, on uppersurface not extending much beyond base of marginal vein ; disc rather densely hairy ; ratio of lengths of veins, submarginal : marginal : stigmal : postmarginal as 43 : 22 : 16 : 23 ; stigmal vein straight, stigma rather large, circular, separated from anterior margin of wing by rather more than twice its height.

Gaster ovate, twice as long as broad, rather longer than head and thorax combined, rather narrower than thorax (11 : 12) ; petiole smooth, short and very transverse ; first tergite occupying about one quarter of total length of gaster ; posterior margins of tergites almost straight ; first tergite smooth, posterior tergites with some weak, alutaceous sculpture ; apices of ovipositor sheaths visible in dorsal view ; tip of hypopygium situated about half way along gaster.

ALE : Unknown.

MATERIAL STUDIED

Holotype ♀. France : Charente, Cognac. Reared from gall of *Plagiotrochus australis* (Mayr) (= *Dryocosmus australis*) (Hym., Cynipidae) on *Quercus* species, between June and August, 1969, in first year of gall (F. BARBOTIN). Paratypes, 10 ♀♀. Same data as holotype.

The holotype and two paratypes will be deposited in the Muséum national d'Histoire naturelle, Paris, and two paratypes in the British Museum (Nat. Hist.). The remainder are retained in the author's collection.

Other chalcids reared by Dr BARBOTIN from the same collection of galls were 18 ♀♀ *Eurytoma brunniventris* Ratzeburg, 2 ♀♀ *Ormyrus punctiger* Westwood, 1 ♂ *Torymus auratus* (Fourcroy), and 1 ♂ 1 ♀ *Eupelmus urozonus* Dalman.

The new species runs to *Cecidostiba* in GRAHAM's (1969) key to genera of Pteromalinae, although not easily because of its very weakly margined pronotal collar. There is some resemblance to *Sturovia* in the dark colouration of body and legs, and in the relatively short marginal vein, but the propodeal structure and incised clypeus are characteristic of *Cecidostiba*. In *Cecidostiba*, *C. atra* is allied to *hilaris* (Walker) and *adana* Askew by the incised clypeus and roundish stigma, but it differs from these species in its weakly margined pronotal collar and blue-black colouration. The only other species with a bluish thorax is *jucundus* (Förster) (see below) but this differs from *atra* in many characters, such as in having a distinct fuscous cloud on the forewing, entire clypeal margin and in the forewing speculum being closed below.

Cecidostiba jucundus (Förster)

All rearing records of *C. jucundus* suggest that it is restricted to attacking hosts in galls of the Cynipid *Pediaspis* on *Acer*. GRAHAM (1969) synonymised *jucundus* with *C. docimus* (Walker), but conspecificity seemed unlikely since WALKER (1839) described his *Pteromalus docimus* from a male captured ' near London ' and *Pediaspis* is not represented

in the British fauna. Examination of the type of *docimus* in the British Museum (Nat. Hist.) confirmed that it is not the same as *jucundus* but appears to be a form of *C. semifascia* (Walker). It has extensive bronze-purple colouration on the thoracic dorsum and an unusually hairy forewing basal cell (both features present to a lesser degree in some males of *semifascia* in my own collection), but the forewing speculum is open below and the pronotal collar distinctly margined as in typical *semifascia*. The male of *C. jucundus* is distinctly blue (not bronze-purple) on the thorax, the hind tibiae are clear, pale yellow (testaceous with some basal infuscation in *semifascia*), the forewing speculum is closed below, the pronotal collar is indistinctly margined and, in comparison with *semifascia* the eyes are slightly larger and the antennal funicle segments shorter, five and six being quadrate or slightly transverse (all at least slightly longer than broad in *semifascia*).

Cecidostiba geganius (Walker)

The species redescribed (Askew, 1961) under this name from material reared from galls of *Andricus quercusradicis* (F.) (Hym., Cynipidae) collected in England and France is the same as *Rhizomalus cupreus* Bouček, 1972, a synonymy confirmed by examination of paratypes of *R. cupreus* in the British Museum (Nat. Hist.).

CECIDOLAMPA gen. n.

Head and thorax finely and densely reticulate with piliferous punctures visible. Head only slightly broader than mesoscutum ; occiput not margined ; genae without a hollow ; clypeus striate, its anterior margin entire ; lower face not protuberant ; both mandibles with three teeth ; antennal insertion high, distinctly above lower edge of eyes, antennal formula 11353, antennae rather short, clavate, sensillae in a single transverse row on each funicle segment, clava with sutures not oblique, micropilosity on third segment only.

Pronotum very short, collar not margined or medially only very weakly and irregularly so, in dorsal view rounded laterally and not forming shoulders. Notauli incomplete, hardly traceable to middle of mesoscutum. Scutellum with frenum ill-defined. Propodeum medially very short, its median area very transverse and strongly arched in transverse axis, mostly smooth and shining ; plicae represented only at sides of anterior foveae and median carina only vaguely indicated ; nucha very short, smooth ; spiracular sulci shallow, spiracles short-oval separated from metanotum by almost their own length ; callus sparsely hairy. Prepectus small, triangular, weakly reticulate. Mesepisternum with a large smooth area below base of hind wing. Hind coxa dorsally bare ; hind tibia with one spur. Forewing with line of hairs on basal vein and scattered hairs on upper surface of distal half of basal cell ; speculum of moderate size ; disc of wing rather sparsely hairy ; marginal vein shorter and broader than postmarginal vein ; stigma moderately large, rectangular.

Female gaster lanceolate, much longer than rest of body ; apices of ovipositor sheaths visible in dorsal view ; tip of hypopygium situated about half way along gaster ; petiole very short, transverse, smooth.

In GRAHAM's (1969) key to genera of Pteromalinae the female of *Cecidolampa* might run to *Lampoterma* Graham if its striate and not reticulate clypeus is ignored. Resemblance to *Lampoterma* seems, however, only to be superficial and the two genera are easily distinguished :

Cecidolampa gen. n. : Lateral ocelli separated from orbits by hardly more than their long diameters ; proximal funicle segments longer than broad ; antennal clava much shorter than three preceding funicle segments together ; forewing stigma large, upper surface of costal cell bare ; sculpture of thoracic dorsum fine but strong.

Lampoterma Graham : Lateral ocelli separated from orbits by over twice their long diameters ; funicle segments transverse ; antennal clava at most only very slightly shorter than three preceding funicle segments together ; forewing stigma small, upper surface of costal cell with some hairs apically ; sculpture of thoracic dorsum weakly-raised, shining.

In many respects *Cecidolampa* resembles *Cecidostiba* Thomson. The short propodeum, presence of piliferous punctures on the mesoscutum, large stigma and tendency towards pilosity of the basal cell are all characters suggestive of *Cecidostiba*. *Cecidolampa* differs from *Cecidostiba*, however, in some fundamental characters and affinity between the two genera cannot be very close. The five-segmented funicle and tridentate right mandible are not found in *Cecidostiba*, and the high antennal insertion and poorly-defined pronotal collar in *Cecidolampa* also indicate a rather wide separation of these two genera.

Cecidolampa barbotini sp. n.

FEMALE

Head and thorax green with some bronze to purplish reflections. Antennal scape and pedicel testaceous; flagellum testaceous below, somewhat fuscous above. Coxae concolorous with thorax ; femora broadly fuscous medially, only weakly metallic : tibiae and tarsi pale testaceous, hind tibia sometimes almost white ; tarsal claws fuscous. Tegulae testaceous. Forewing with an elongated, fuscous streak beneath stigma, sometimes poorly-developed or absent ; venation sordid testaceous. Length 2.3-2.6 mm.

Head slightly broader than mesoscutum (16 : 15), in dorsal view (fig. 1) 1.8 times as broad as long, temples rounded and hardly one fifth as long as an eye ; ocelli large, lateral ocelli separated from orbit by hardly more than their major diameter, POL about 3.5 times OOL ; frons protruding in an even curve so that antennal toruli are just visible. Head in front view (fig. 5) about 1.35 times as broad as high ; vertex quite strongly elevated ; eyes separated by 1.2 times their height, inner orbits slightly diverging ventrad, eye hairs short and sparse ; malar space nearly 0.4 times height of an eye ; genae converging, only slightly curved, malar sulcus poorly-defined ; mouth opening equal to height of an eye. Both mandibles with three teeth, the inner tooth obliquely truncate. Head finely but strongly reticulate, piliferous punctures discernible on upper face ; clypeus striate, the striae scarcely extending onto the face, anterior margin smooth and truncate.

Antennae (fig. 3) inserted far above ventral edge of eyes, lower edge of toruli about mid-way between median ocellus and anterior margin of clypeus ; scape not quite three-quarters the height of an eye, almost reaching to vertex ; combined lengths of pedicel

and flagellum distinctly shorter than breadth of head (36 : 43) ; pedicel slightly more than twice as long as broad ; funicle proximally more slender than pedicel, distally wider, first and second funicle segments longer than broad, third to fifth subquadrate ; pedicel about as long as the three anelli plus first funicle segment together ; clava much broader than funicle, 1.5 times as long as broad and considerably shorter than the three distal funicle segments together, apically rounded with a small patch of micropilosity ventrally on third segment. Flagellum with short, decumbent hairs.

Pronotum in dorsal view extremely short, collar medially only 0.03 times as long as mesoscutum, unmargined and wholly reticulate, descending steeply to neck. Mesoscutum 1.5 times as broad as long, finely but strongly reticulate, some piliferous punctures visible amongst the reticulation. Thorax in profile quite strongly arched. Scutellum and axillae more finely and less strongly reticulate than mesoscutum. Scutellum about as broad as long, quite strongly convex in both axes. Dorsellum a curved, horizontal ridge, reticulate and shining. Propodeum medially scarcely one sixth (sometimes less) as long as scutellum ; median carina represented by a slightly elevated triangle ; plicae weak and effaced posteriorly ; median area virtually smooth, shining ; postero-laterally rounded with very narrow supra-coxal flanges.

Forewing (fig. 2) twice as long as broad, not quite reaching to apex of gaster ; costal cell bare on upper surface, its lower surface with one complete hair row and two incomplete rows in distal third ; basal cell open below but with basal vein hairy and a few additional hairs distally on upper surface ; speculum open below, on upper surface extending to stigmal vein ; ratio of lengths of veins submarginal : marginal : stigmal : postmarginal as 70 : 35 : 27 : 40 ; stigmal vein slightly curved ; stigma quite large, separated from anterior margin of wing by three times its height.

Gaster 1.2 to 1.4 times as long as rest of body, compressed laterally and much narrower than thorax ; tergites with apical margins almost straight, the first tergite smooth dorsally, the remainder with weak, alutaceous sculpture strongest on the posterior tergites ; ovipositor sheaths exserted to a length exceeding width of hind tibia.

Male

Differs from female as follows : head and thorax more bronze-green ; legs paler with femora less heavily infuscate, the front femora entirely pale ; forewing lacking fuscous streak beneath stigma. Length 1.2-1.9 mm. Antenna (fig. 4) subfiliform, third anellus large, sometimes slightly longer than broad ; pedicel and flagellum together almost equal to breadth of head ; hairs on flagellum rather more numerous and outstanding than in female. Propodeum and dorsellum longer in dorsal view, propodeum about one third as long as scutellum. Gaster about as long as thorax plus propodeum, 2.2 times as long as broad, broadly rounded apically with a strong ventral plica.

Material studied

Holotype ♀. France : Charente, Forêt de Tusson. Reared from gall of *Pediaspis aceris* (Gmelin) (Hym., Cynipidae) on *Acer* (F. Barbotin). Paratypes, 36 ♀♀ and 43 ♂♂, same data as holotype.

The holotype and four paratypes will be placed in the Muséum national d'Histoire

naturelle, Paris, four paratypes will be deposited in the British Museum (Nat. Hist.), and the remaining paratypes are retained in the author's collection.

Dr Barbotin sent me the material of *Cecidolampa barbotini* in 1971. Other chalcids reared together with the new species from the same collection of galls were 176 ♂♂ 117 ♀♀ *Eurytoma* sp. nr *brunniventris*, 4 ♂♂ 3 ♀♀ *Eupelmus urozonus*, 57 ♂♂ 37 ♀♀ *E. splendens* Giraud, about 1000 (sex ratio about even) *Dichatomus acerinus* (Giraud), and 14 ♂♂ 3 ♀♀ *Cecidostiba jucundus* (Ratzeburg) (see above).

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